

Date: Wednesday, 5/23/2007 4:10:59 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : GPS RECEIVER HOUSING
Job Number : 32537
Estimate Number : 12494
P.O. Number : N/A Part Number : D35147
This Issue : 5/23/2007 S.O. No. : N/A Drawing Number : UNDER REVIEW CB 07.05.24
Prsht Rev. : NC Project Number : N/A
First Issue : N/A Type : SMALL /MED FAB Drawing Revision : N/A
Previous Run : 28419 Material : N/A
Written By : Due Date : 5/30/2007 Qty: 4 Um: Each
Checked & Approved By : 07.05.24
Comment : Est Rev A New Issue 06-07-26 JLM

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M6061T6S040 6061-T6 .040 Sheet



Comment: Qty.: 0.2518 sf(s)/Unit Total : 1.0072 sf(s)

6061-T6 .040 Sheet

(M6061T6S040)

Batch: m100742

ml 07 05 25

(4)

2.0 WATER JET FLOW WATER JET



Comment: FLOW WATER JET

1-Cut as per Dwg D3514

Dwg Rev: A

Proj Rev: A

ml 07 05 25

(4)

Ensure Grain Direction is correct**

2-Deburr if necessary

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



ml 07 05 25



(4)

Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0 QC8 SECOND CHECK



ml 07 05 25 07.05.25



(4)

Comment: SECOND CHECK

5.0 BRAKE NC NC BRAKE



Comment: NC BRAKE

Form Joggle as per Dwg D3514



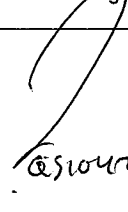
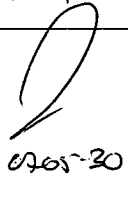
SL 07/05/30

(3)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ ☐ Date: 07/05/30

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07/05/30	S	1 piece crack at the bend	 06/10/42	Scrap & destroy	SB 07/05/30	 07/05/30	 06/10/42	 07/05/30

NOTE: Date & initial all entries

Date: Wednesday, 5/23/2007 4:10:59 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: GPS RECEIVER HOUSING

Job Number: 32537

Part Number: D35147

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



07.05.30 (3)



Comment: INSPECT WORK TO CURRENT STEP

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

ml 07.05.30 (3)

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

ml 07/05/30 x3

9.0

PACKAGING 1

PACKAGING RESOURCE #1



ENG APPROVAL



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *GA*

CB 07.05.31

ml 07/05/30 x3

10.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07.05.31 (3)

Job Completion



07.05.31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

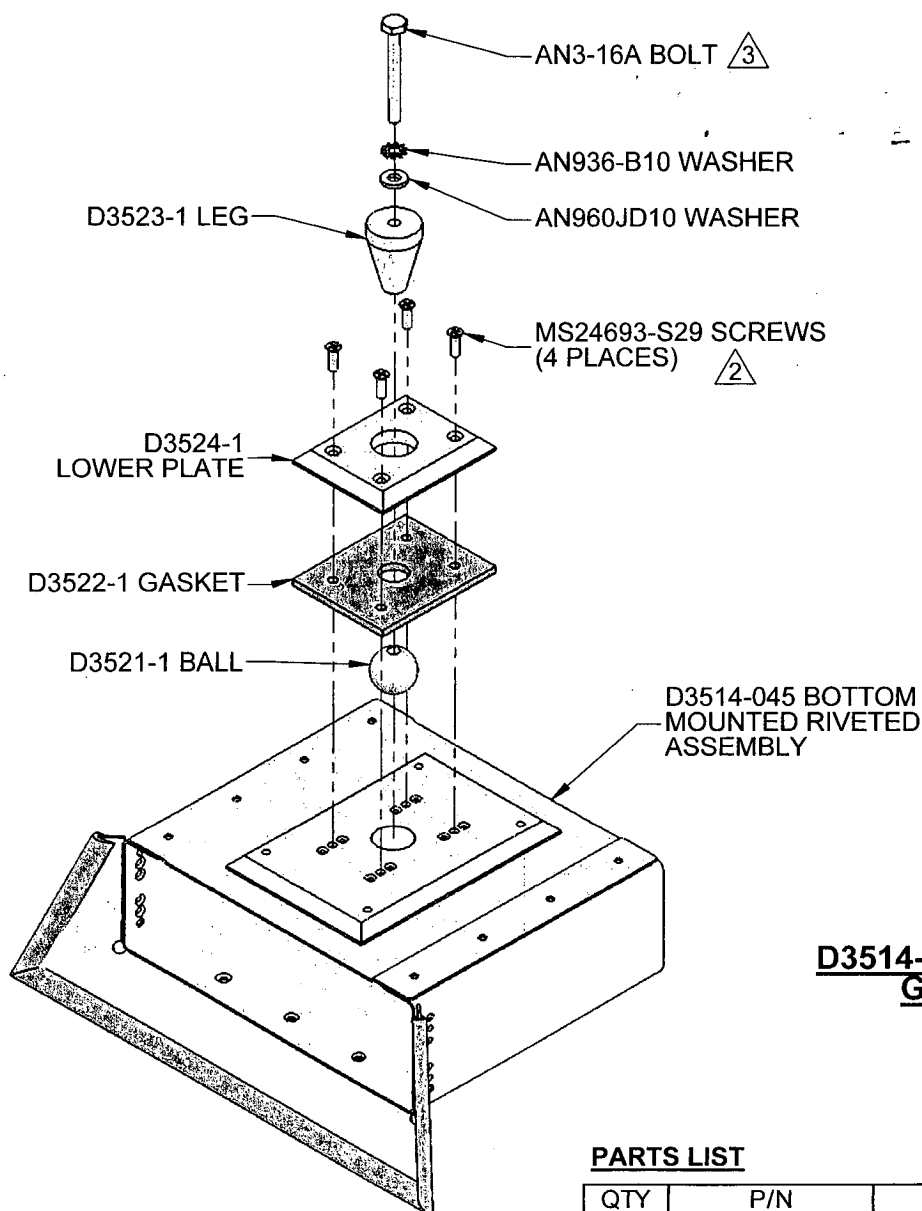
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DESIGN CB	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED PH	APPROVED	DRAWING NO. D3514	REV. A SHEET 1 OF 9
DATE 07.01.10	TITLE GPS RECEIVER HOUSING		SCALE 1:3



PRELIMINARY ISSUE

UNDER REVIEW

07.05.24CB

SHOP COPY
RETURN TO
**D3514-041 BOTTOM MOUNTED
GIMBAL ASSEMBLY**
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **32537**

PARTS LIST

QTY	P/N	DESCRIPTION
X	D3514-041	BOTTOM MOUNTED GIMBAL ASSEMBLY
1	D3514-045	BOTTOM MOUNTED HOUSING ASSEMBLY
1	D3521-1	BALL
1	D3522-1	GASKET
1	D3523-1	LEG
1	D3524-1	LOWER PLATE
1	AN3-16A	BOLT
1	AN936-B10	WASHER
1	AN960JD10	WASHER
4	MS24693-S29	SCREWS

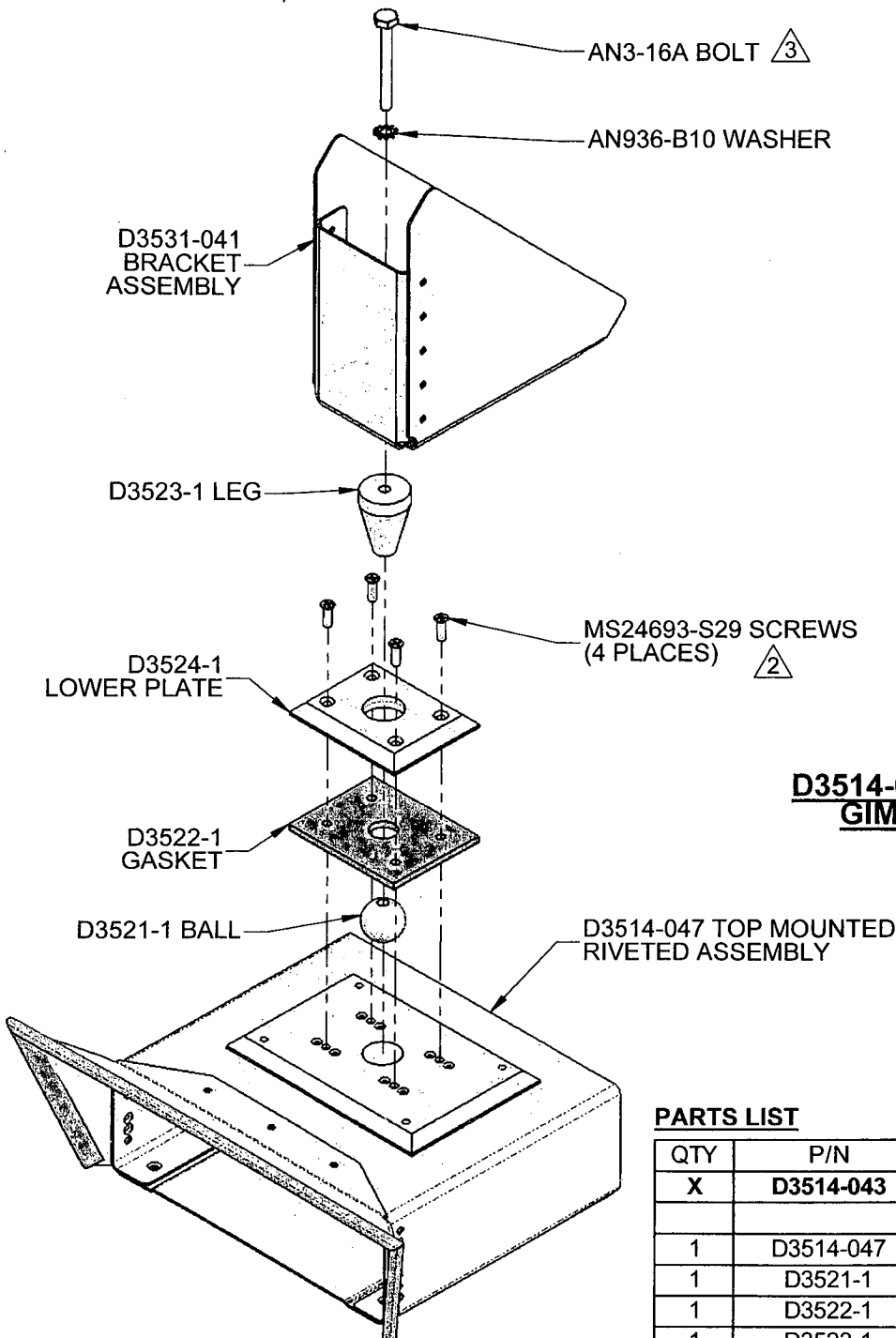
NOTE:

- 1) ASSEMBLE PER DART QSI 003
- 2) TORQUE SCREWS TO 5-6 in-lbs
- 3) TIGHTEN TO SNUG FIT ONLY
- 4) IDENTIFY WITH DART P/N "D3514-041" USING A WHITE MARKER

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DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:3



PRELIMINARY ISSUE

UNDER REVIEW

07.05.24 CB

**D3514-043 TOP MOUNTED
GIMBAL ASSEMBLY**

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WORK ORDER
NO. **32537**

PARTS LIST

QTY	P/N	DESCRIPTION
X	D3514-043	TOP MOUNTED GIMBAL ASSEMBLY
1	D3514-047	TOP MOUNTED HOUSING ASSEMBLY
1	D3521-1	BALL
1	D3522-1	GASKET
1	D3523-1	LEG
1	D3524-1	LOWER PLATE
1	D3531-041	BRACKET ASSEMBLY
1	AN3-16A	BOLT
1	AN936-B10	WASHER
4	MS24693-S29	SCREWS

NOTE:

- 1) ASSEMBLE PER DART QSI 003
- 2) TORQUE SCREWS TO 5-6 in-lbs
- 3) TORQUE BOLTS TO 15-25 in-lbs
- 4) IDENTIFY WITH DART P/N "D3514-043" USING A WHITE MARKER

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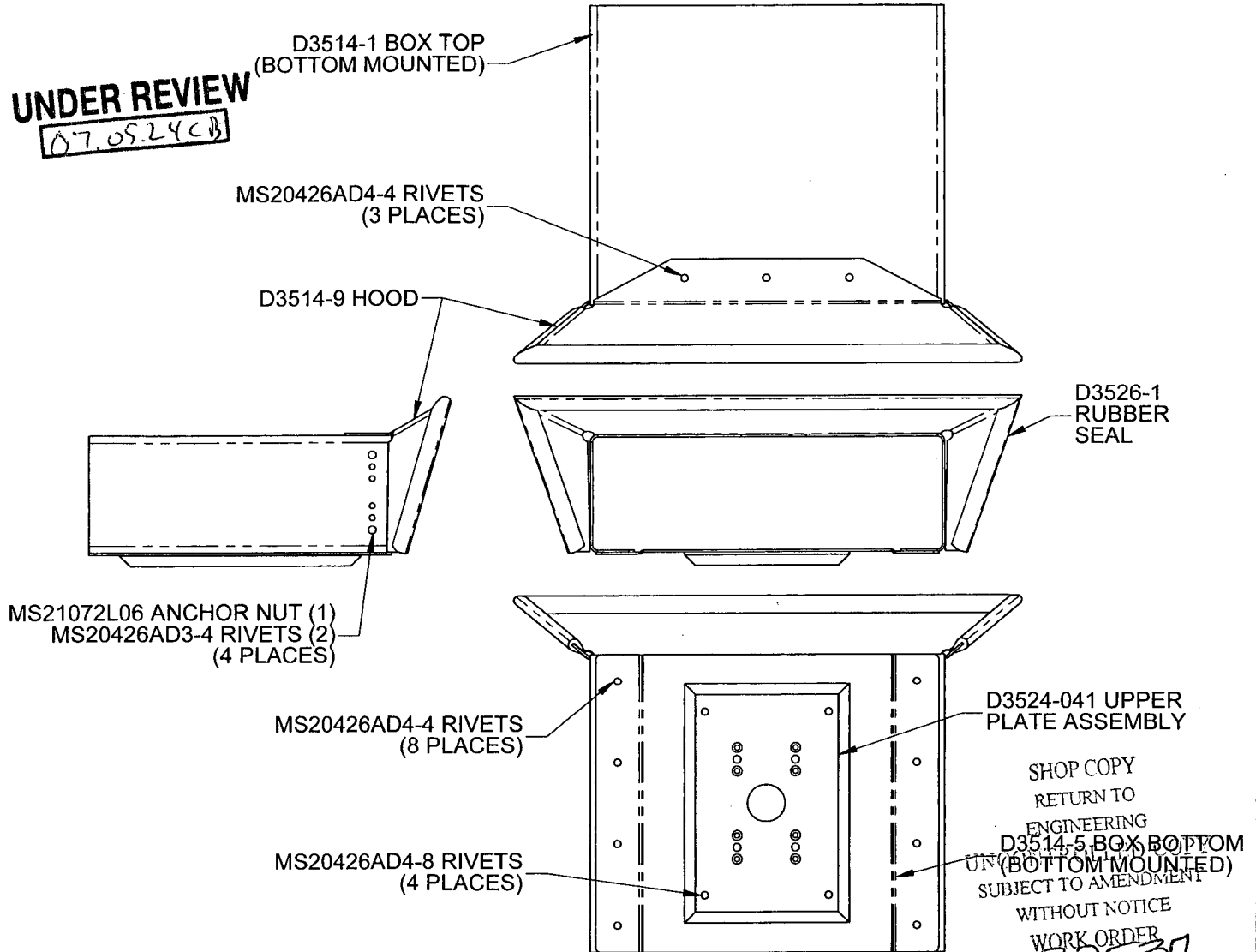
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CHECKED PH	APPROVED	DRAWING NO. D3514	REV. A SHEET 3 OF 9
DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:3
REV A	DATE 07.01.10	DESCRIPTION NEW ISSUE	

UNDER REVIEW

07.05.24CB



D3514-045 BOTTOM MOUNTED HOUSING ASSEMBLY

NOTES:

- 1) POWDER COAT ASSEMBLY BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3.
- 2) ASSEMBLE PER DART QSI 003

PARTS LIST

QTY	P/N	DESCRIPTION
X	D3514-045	BOTTOM MOUNTED HOUSING ASSEMBLY
1	D3514-1	BOX TOP (BOTTOM MOUNTED)
1	D3514-5	BOX BOTTOM (BOTTOM MOUNTED)
1	D3514-9	HOOD
1	D3524-041	UPPER PLATE ASSEMBLY
1	D3526-1	RUBBER SEAL
8	MS20426AD3-4	RIVET
11	MS20426AD4-4	RIVET
4	MS20426AD4-8	RIVET
4	MS21072L06	ANCHOR NUT

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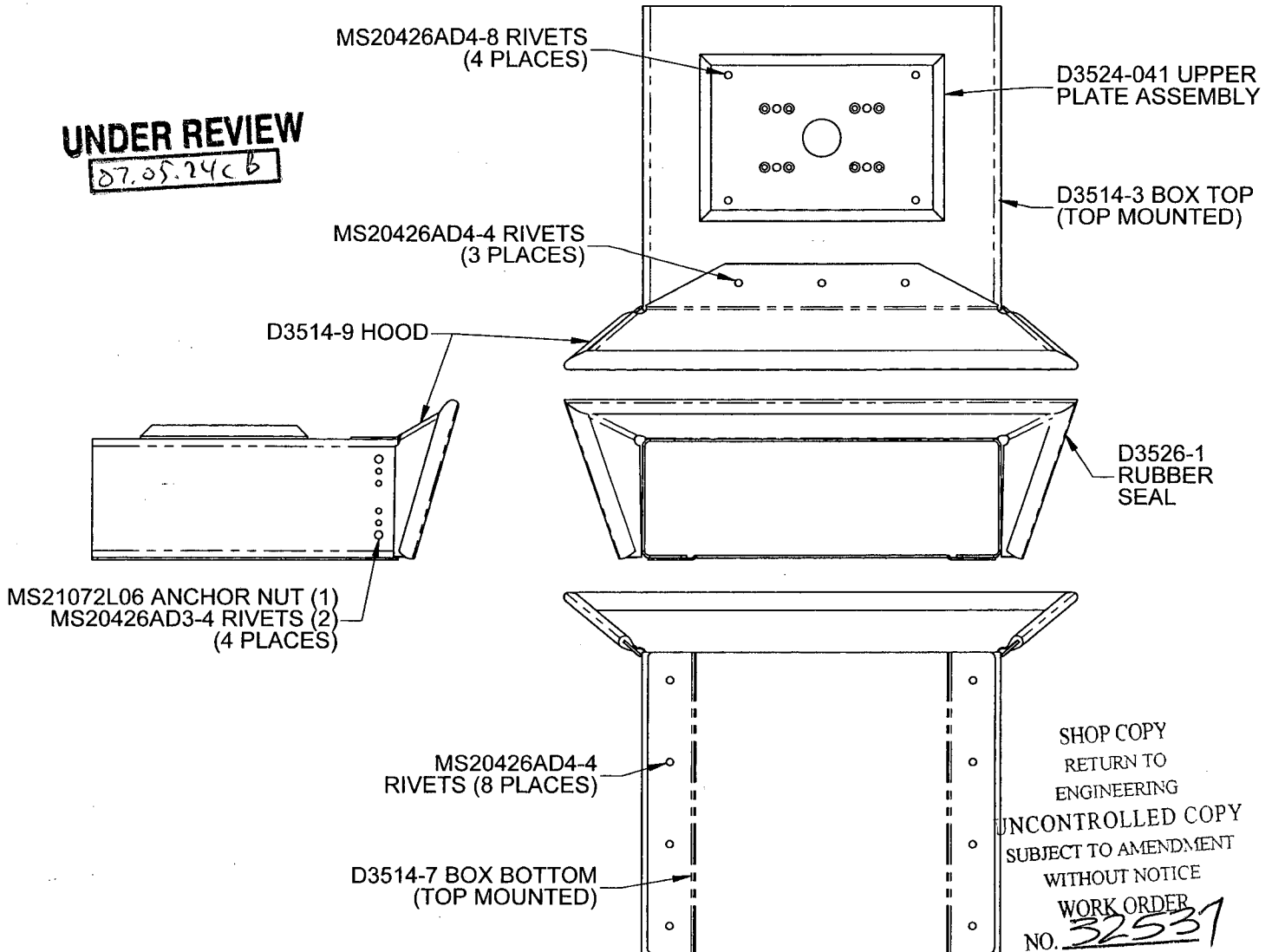
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DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:3

UNDER REVIEW

07.05.24CB



**D3514-047 TOP MOUNTED
HOUSING ASSEMBLY**

NOTES:

- 1) POWDER COAT ASSEMBLY BLACK
SANDTEX (4.3.5.7) PER DART QSI 005 4.3.
- 2) ASSEMBLE PER DART QSI 003

PARTS LIST

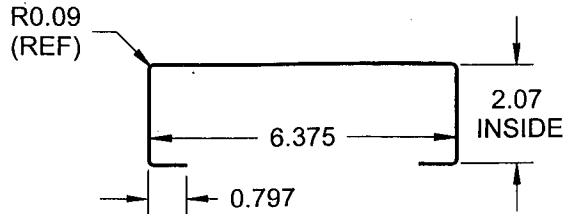
QTY	P/N	DESCRIPTION
X	D3514-047	TOP MOUNTED HOUSING ASSEMBLY
1	D3514-3	BOX TOP (TOP MOUNTED)
1	D3514-7	BOX BOTTOM (TOP MOUNTED)
1	D3514-9	HOOD
1	D3524-041	UPPER PLATE ASSEMBLY
1	D3526-1	RUBBER SEAL
8	MS20426AD3-4	RIVET
11	MS20426AD4-4	RIVET
4	MS20426AD4-8	RIVET
4	MS21072L06	ANCHOR NUT

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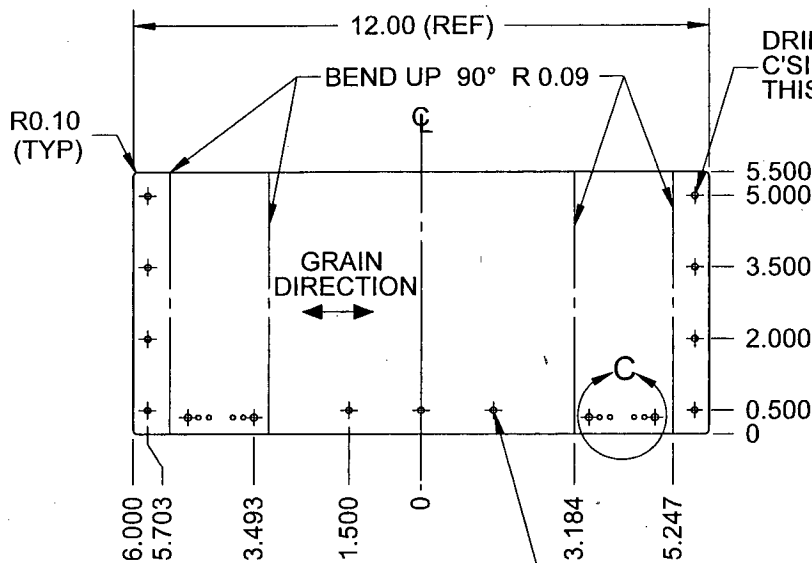
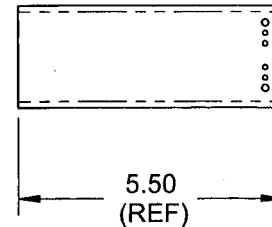
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DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:4

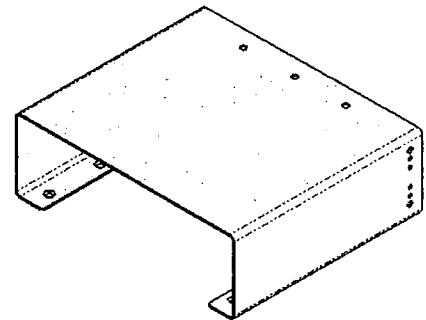


**D3514-1
BEND DETAIL**



**D3514-1F
FLAT PATTERN**

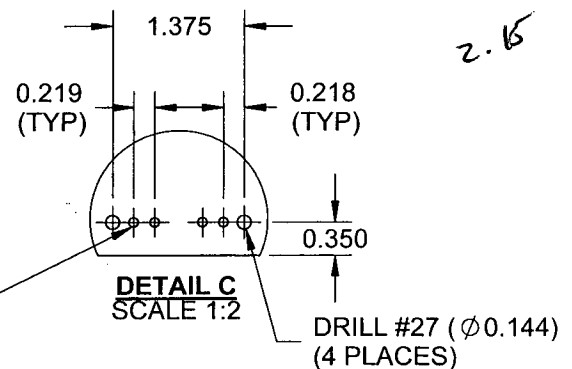
DRILL #30 ($\phi 0.129$)
C'SINK $\phi 0.230 \times 100^\circ$
THIS SIDE (8 PLACES)



2.6

DRILL #30 ($\phi 0.129$)
C'SINK $\phi 0.230 \times 100^\circ$
THIS SIDE (3 PLACES)

DRILL #40 ($\phi 0.098$)
C'SINK $\phi 0.182 \times 100^\circ$ THIS SIDE
(8 PLACES) FOR RIVETS



**DETAIL C
SCALE 1:2**

UNDER REVIEW
07.05.24CB

D3514-1 BOX TOP (BOTTOM MOUNTED)

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT ϕ
- 7) C'SINKS ARE ON THE INSIDE OF PART (AFTER BENDING)

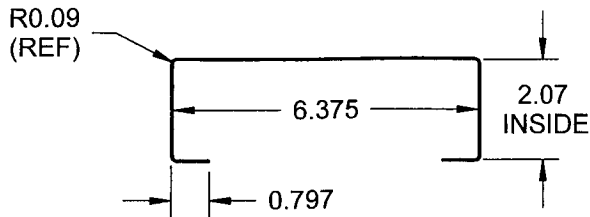
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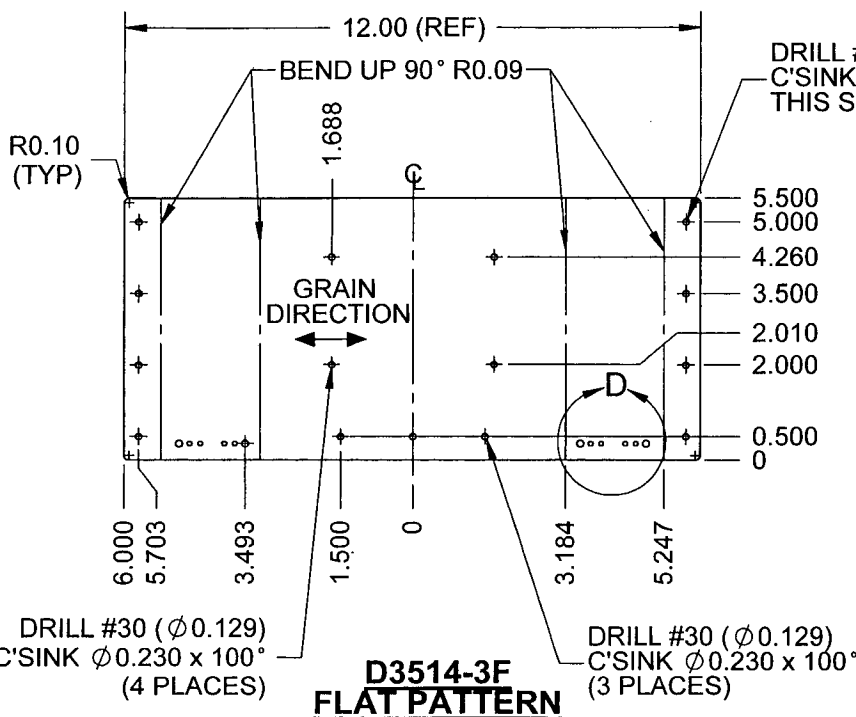
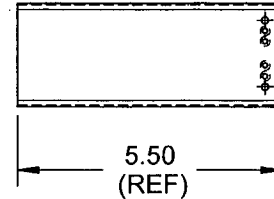
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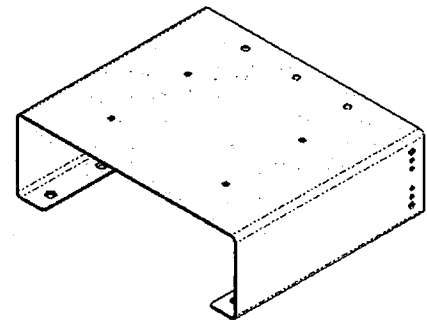
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CHECKED PH	APPROVED AF	DRAWING NO. D3514	REV. A SHEET 6 OF 9
DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:4



**D3514-3
BEND DETAIL**



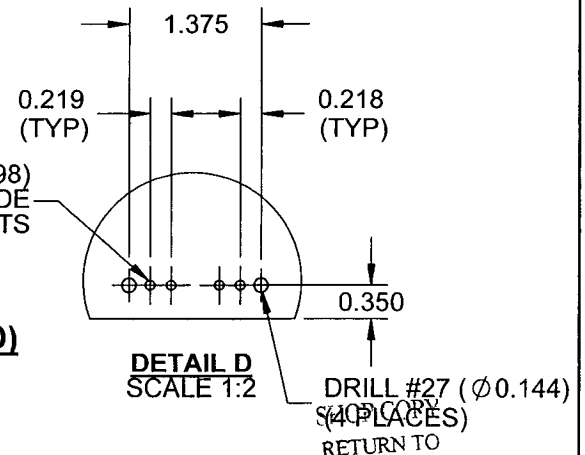
**D3514-3F
FLAT PATTERN**



UNDER REVIEW
07.05.24 CB

DRILL #40 (Ø0.098)
C'SINK Ø0.182 x 100° THIS SIDE
(8 PLACES) FOR RIVETS

D3514-3 BOX TOP (TOP MOUNTED)



**DETAIL D
SCALE 1:2**

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11, OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT \bar{C}
- 7) C'SINKS ARE ON THE INSIDE OF PART (AFTER BENDING)

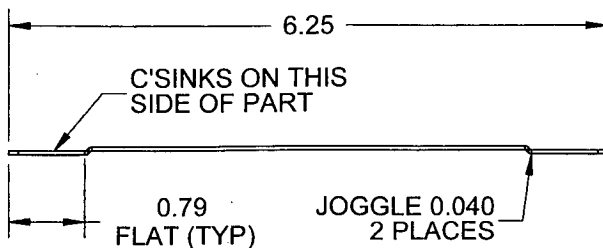
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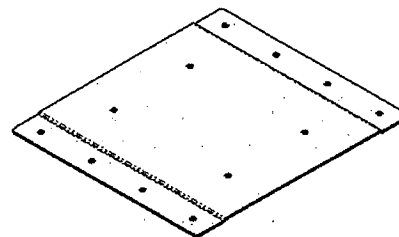
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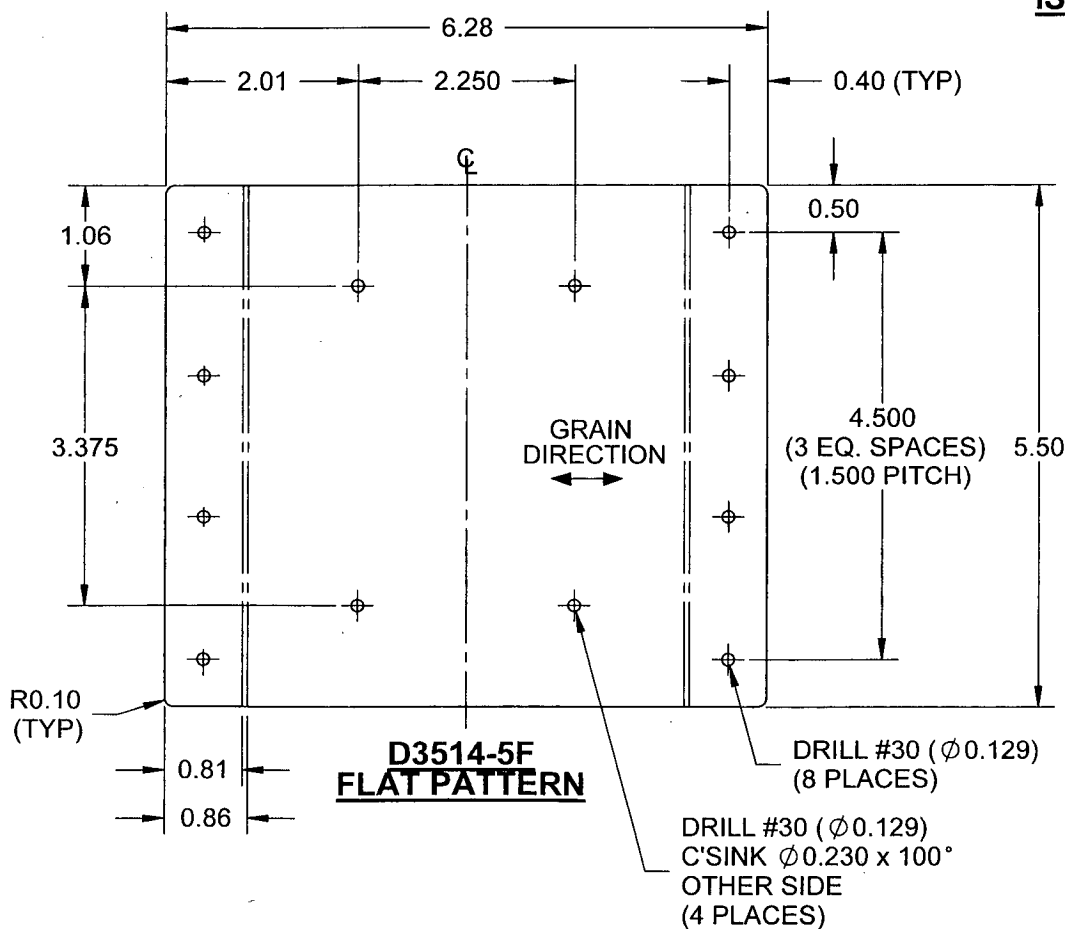
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CHECKED <i>PH</i>	APPROVED <i>CB</i>	DRAWING NO. D3514	REV. A SHEET 7 OF 9
DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:2



**D3514-5
BEND DETAIL**



**ISOMETRIC VIEW
SCALE 1:4**



UNDER REVIEW

07.05.24CB

**D3514-5F
FLAT PATTERN**

D3514-5 BOX BOTTOM (BOTTOM MOUNTED)

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT ϕ
- 7) C'SINK BELOW JOGGLE

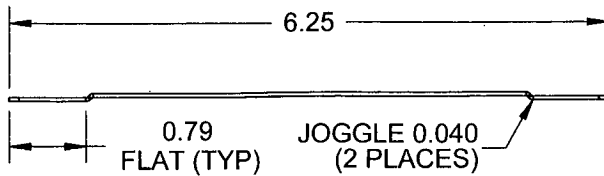
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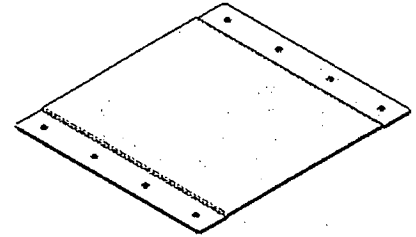
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PRELIMINARY ISSUE

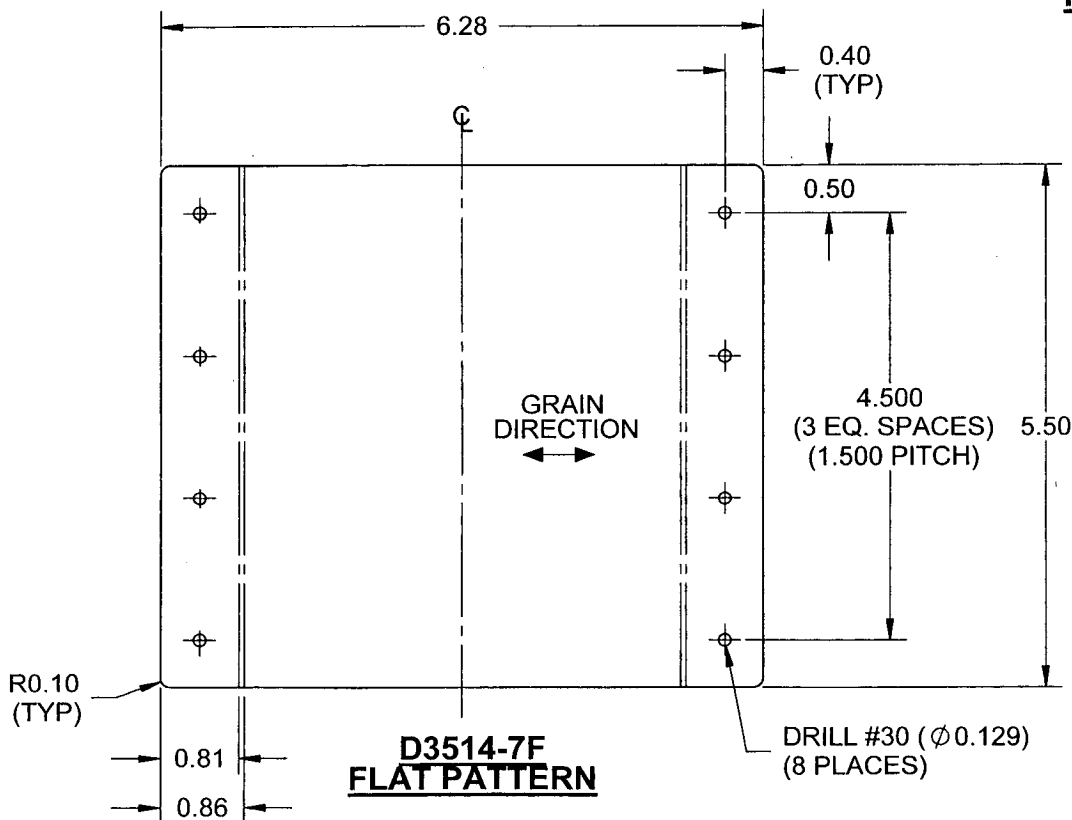
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CHECKED PH	APPROVED [Signature]	DRAWING NO. D3514	REV. A SHEET 8 OF 9
DATE 07.01.10		TITLE GPS RECEIVER HOUSING	
		SCALE 1:2	



**D3514-7
BEND DETAIL**



**ISOMETRIC VIEW
SCALE 1:4**



**D3514-7F
FLAT PATTERN**

UNDER REVIEW

07.05.2408

D3514-7 BOX BOTTOM (TOP MOUNTED)

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT C

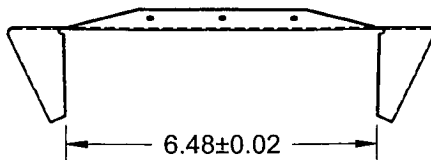
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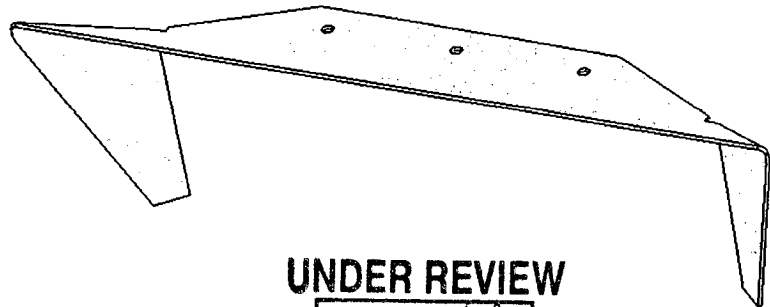
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PRELIMINARY ISSUE

DESIGN CB	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED PH	APPROVED AF	DRAWING NO. D3514	REV. A SHEET 9 OF 9
DATE 07.01.10	TITLE GPS RECEIVER HOUSING		SCALE 1:2

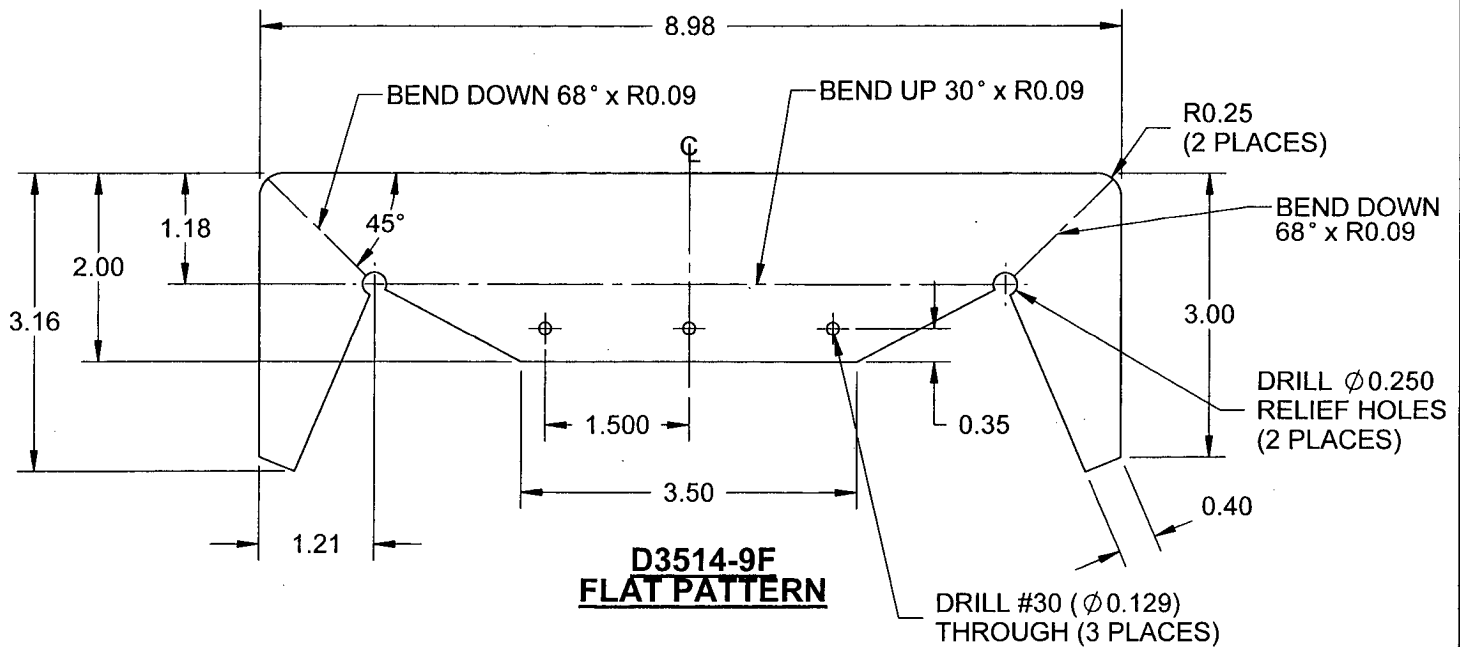


FRONT VIEW
SCALE 1:4



UNDER REVIEW

**D3514-9
BEND DETAIL**



**D3514-9F
FLAT PATTERN**

D3514-9 HOOD

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT \bar{C}

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WORK ORDER

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DART AEROSPACE LTD		Work Order:	
Description: Boat paw GRS Receiver Housing		Part Number:	
Inspection Dwg: D3514	Rev: A	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A 5.50	+/-0.030	5.501	✓		VERN	
B 6.28	+/-0.030	6.300	✓		VERN	
C Ø 0.129	+/-0.005-0.001	0.130	✓		VERN	
D 4.500	+/-0.010	4.502	✓		VERN	
E 1.500	+/-0.010	1.502	✓		VERN	
F R0.10	+/-0.030	R0.10	✓		R.G	
G 0.40	+/-0.030	0.407	✓		VERN	
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Measured by: <i>M. M. 1</i>	Audited by: <i>[Signature]</i>	Prototype Approval:	N/A
Date: 07.05.25	Date: 07.05.24	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.01.09	New Issue	KJ/RF	